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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,055	07/03/2003	Myung-Ryul Choi	1293.1734	4299

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EXAMINER

DANIELSEN, NATHAN ANDREW

ART UNIT	PAPER NUMBER
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2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/612,055	Applicant(s) CHOI, MYUNG-RYUL	
	Examiner Nathan Danielsen	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11 and 13-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-11, 13-19, 21-33, 35, 37 and 38 is/are allowed.
- 6) ☒ Claim(s) 20, 34 and 38 is/are rejected.
- 7) ☒ Claim(s) 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. <u>20070412</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

1. Claims 2-11 and 13-38 are pending. Claims 36-38 have been added in applicant's amendment filed 05 April 2007.

Response to Amendment

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Objections

3. Claims 2, 6, 8, and 38 are objected to because "a disk chucking apparatus holding the disk on the disk tray" should be changed to --a disk chucking apparatus holding the disk apart from the disk tray--, or another equivalent phrase, since the language in quotes suggests that the chucking apparatus holds the disk in contact with the tray. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 20, 34, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kin et al (JP Patent Application Publication 11-317065; hereinafter Kin), in view of Chang et al (US Patent Application Publication 2002/0075591; hereinafter Chang).

Regarding claims 20 and 38, Kin discloses a disk drive reducing noise, comprising:

a disk tray sliding in and out of the disk drive and on which a disk is placed (element 240 in figures 19 and 24);

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a disk driving portion rotating the disk at a predetermined speed (elements 232 and 234 in figure 19);

a disk chucking apparatus holding the disk on the disk tray (element 252 in figures 19 and 24);

a data recording/reproducing unit recording data on the disk or reproducing data from the disk (element 236 in figure 19); and

an air guide plate installed between an upper surface of the disk tray and an upper cover plate of the disk drive, parallel to the disk tray, and separating an air flow area, the air flow above the disk generated by rotation of the disk being divided into turbulence under the air guide plate and turbulence above the air guide plate (element 250 in figures 19 and 24).

However, Kin fails to disclose where the disk drive further comprises a porous air flow control unit installed on the air guide plate to attenuate a strength and a perturbation component of the turbulence flowing above the air guide plate.

In the same field of endeavor, Chang discloses where the disk drive (§ 40) further comprises a porous air flow control unit (elements 142 in elements 186-1 and 186-2 in figure 10) installed on the air guide plate (element 184) to attenuate a strength and a perturbation component of the turbulence flowing above the air guide plate (§ 36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Kin with the structure of Chang, for the purpose of reducing excitation on the suspension components and the head (§ 36).

Regarding claim 34, Kin, in view of Chang, discloses everything claimed, as applied to claim 20. Additionally, Kin discloses where the turbulence above the air guide plate is not directly influenced by the rotating disk (§s 50-52 and figure 24).

Allowable Subject Matter

6. Claims 2-11, 13-19, 21-34, 35, and 37 are allowed.

7. Claim 36 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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8. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, either alone or in combination; fail to teach or fairly suggest where the air guide plate comprises an end portion having a wedge shape that is inclined in a direction in which the air flow above the disk proceeds to move the air flow above the disk up along the air guide plate.

Response to Arguments

9. Applicant's arguments, see pages 11-14, filed 05 April 2007, with respect to claims 2-11, 13-19, 21-34, and 35 have been fully considered and are persuasive. The rejections of 20 February 2007 with respect to these claims have been withdrawn.

10. Applicant's arguments with respect to the rejection(s) of claim(s) 20 and 34 under 35 USC § 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kin and Chang.

Citation of Relevant Prior Art

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Yomogida (JP Patent Application Publication 2001-250301) discloses an additional embodiment of an air flow guide plate.

Closing Remarks/Comments

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Danielsen whose telephone number is (571) 272-4248. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathan Danielsen
04/12/2007

NP


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER